```
FILE 'MEDLINE' ENTERED AT 16:02 ON 20 JUL 2003
FILE 'CAPLUS' ENTERED AT 16:02:13 ON 20 JUL 2003
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FILE 'SCISEARCH' ENTERED AT 16:02:13 ON 20 JUL 2003
COPYRIGHT 2003 THOMSON ISI
FILE 'AGRICOLA' ENTERED AT 16:02:13 ON 20 JUL 2003
=> s Pr-39
            425 PR-39
=> s proteosome
          1372 PROTEOSOME
=> s 12 (p) inhibit?
            462 L2 (P) INHIBIT?
=> s l1 (p) l3
              0 L1 (P) L3
=> s simons michael/au
            303 SIMONS MICHAEL/AU
=> s gao youhe/au
L6
            25 GAO YOUHE/AU
=> s (15 or 16) and 11
             13 (L5 OR L6) AND L1
=> duplicate remove 17
DUPLICATE PREFERENCE IS 'CAPLUS, BIOSIS'
KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n
PROCESSING COMPLETED FOR L7
              11 DUPLICATE REMOVE L7 (2 DUPLICATES REMOVED)
=> d 18 1-11 ibib abs
     ANSWER 1 OF 11 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
                     2003:80682 BIOSIS
ACCESSION NUMBER:
DOCUMENT NUMBER:
                     PREV200300080682
                                   ***PR*** - ***39***
TITLE:
                     Adenoviral
                                                             improves perfusion and
                     function in a pig model of chronic myocardial ischemia.
AUTHOR(S):
                     Post, Mark J. (1); Bao, Jialin; Sato, Kaori; Murakami
                     Masahiro; Pearlman, Justin D.;
                                                       ***Simons, Michael***
                     (1) Dartmouth Medical Sch, Lebanon, NH, USA USA Circulation, (November 5 2002) Vol. 106, No. 19 Supplement,
CORPORATE SOURCE:
SOURCE:
                     pp. II-275. print.
                     Meeting Info.: Abstracts from Scientific Sessions Chicago,
                     IL, USA November 17-20, 2002 American Heart Association
                      ISSN: 0009-7322.
DOCUMENT TYPE:
                     Conference
LANGUAGE:
                     English
     ANSWER 2 OF 11 CAPLUS COPYRIGHT 2003 ACS ON STN
ACCESSION NUMBER:
                           2001:489246 CAPLUS
DOCUMENT NUMBER:
                          135:87168
                                        ***PR*** - ***39*** peptide-mediated
TITLE:
                          Method for
                          selective inhibition of I.kappa.B.alpha. degradation
***Simons, Michael***; ***Gao, Youhe***
INVENTOR(S):
PATENT ASSIGNEE(S):
                           Beth Israel Deaconess Medical Center, USA
SOURCE:
                           PCT Int. Appl., 68 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:
                          Patent
LANGUAGE:
                          English
FAMILY ACC. NUM. COUNT:
PATENT INFORMATION:
```

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PATENT NO.
                                                   APPLICATION NO.
                                                                       DATE
                                 DAT
                          KIND
                                 20010705
                                                   wo 2000-us35293
                                                                       20001227
      wo 2001047540
                           Α1
           W: AU, CA, JP
           RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
               PT, SE, TR
                                 20020925
                                                   EP 2000-989492
                                                                       20001227
      EP 1242107
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR
PRIORITY APPLN. INFO.: US 1999-474967 A 19991229
                                               wo 2000-us35293 W
                                                                       20001227
      The invention provides both a method and means for regulating
      I.kappa.B.alpha. degrdn., NF.kappa.B activity, and NF.kappa.B-dependent
      gene expression within living cells, tissues, and organs in-situ.
                                                               ***PR***
      selective regulation is performed using native
      peptide or one of its shorter-length homologs, for interaction with such
      I.kappa.B.alpha. and proteasomes as are present in the cytoplasm of viable cells. The result of ***PR*** - ***39*** peptide interaction with
              The result of
                                                               peptide interaction with
      I.kappa.B.alpha. is a selective alteration in the intracellular proteolytic activity of proteasomes, which in turn, causes a redn. of I.kappa.B.alpha., a decrease of NF.kappa.B activity, and a down-regulation
      of NF.kappa.B-dependent gene expression.
      ANSWER 3 OF 11 CAPLUS COPYRIGHT 2003 ACS ON STN
ACCESSION NUMBER:
                             2001:319740 CAPLUS
DOCUMENT NUMBER:
                             134:336214
                                             ***PR*** - ***39***
TITLE:
                             Method for
                                                                         peptide regulated
                              stimulation of angiogenesis
                                ***Simons, Michael***
                                                                ***Gao, Youhe***
INVENTOR(S):
                              Beth Israel Deaconess Medical Center, USA
PATENT ASSIGNEE(S):
SOURCE:
                             PCT Int. Appl., 52 pp.
                             CODEN: PIXXD2
DOCUMENT TYPE:
                              Patent
                              English
LANGUAGE:
FAMILY ACC. NUM. COUNT:
PATENT INFORMATION:
      PATENT NO.
                          KIND
                                 DATE
                                                 APPLICATION NO.
                                                                       DATE
      wo 2001030368
                                 20010503
                           Α1
                                                  wo 2000-us27552 20001006
          W: AU, CA, JP
          RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
               PT, SE
PRIORITY APPLN. INFO.:
                                               US 1999-426011
                                                                  A 19991025
     The present invention provides both a method and means for regulating angiogenesis within living cells, tissues, and organs in-situ. The regulation is performed using native ***PR*** - ***39*** peptidents.
      one of its shorter-length homolog, for interaction with such proteasomes as one present in the cytoplasm of viable cells. The result of ***PR*
                      peptide interaction with proteasomes is a decrease in the
      intracellular degrdn. of active peptides such as HIF-1.alpha. and a
      consequential stimulation of angiogenesis in-situ.
REFERENCE COUNT:
                                    THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS
                                    RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
      ANSWER 4 OF 11 CAPLUS COPYRIGHT 2003 ACS ON STN DUPLICATE 1
                             2001:936421 CAPLUS
ACCESSION NUMBER:
                             136:178301.
DOCUMENT NUMBER:
                                            - ***39***
TITLE:
                                ***PR***
                                                            and PR-11 peptides inhibit
                             ischemia-reperfusion injury by blocking
                             AUTHOR(S):
                               Post, Mark J
CORPORATE SOURCE:
                             Angiogenesis Research Center, Beth Israel Deaconess
                             Medical Center, Dartmouth Medical School, Hanover, NH,
                             03756, USA
SOURCE:
                             American Journal of Physiology (2001), 281(6, Pt. 2),
                             H2612-H2618
                             CODEN: AJPHAP; ISSN: 0002-9513
PUBLISHER:
                             American Physiological Society
DOCUMENT TYPE:
                             Journal
                   English
- ***39*** i
LANGUAGE:
                                   inhibits proteasome-mediated I.kappa.B.alpha.
     degrdn. and might protect against ischemia-reperfusion injury. The authors studied ***PR*** - ***39*** , its truncated form PR-11
                                                     , its truncated form PR-11, and a
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AB

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mutant PR-11AAA, which lacks the ability to prevent I.kappa B.alpha degrdn., in a rat heart is mia-reperfusion model. After min of ischemia and 24 h of reperiosion, cardiac function, infarct lize,
      neutrophil infiltration, and myeloperoxidase activity were measured. Intramyocardial injection of 10 nmol/kg ***PR*** - ***39*** or
                                                                                        or PR-11
      at the time of reperfusion reduced infarct size by 65% and 57%, resp.
      which improved blood pressure, left ventricular systolic pressure, and
      relaxation and contractility compared with vehicle controls 24 h later. Neutrophil infiltration, myeloperoxidase activity, and the expression of intercellular adhesion mol.-1 and vascular cell adhesion mol. 1 were reduced. Thus, ***PR*** - ***39*** and PR-11 effectively inhibit
      myocardial ischemia-reperfusion injury in the rat in vivo. This effect is
      mediated by inhibition of I.kappa.B.alpha. degrdn. and subsequent
      inhibition of nuclear factor-.kappa.B-dependent adhesion mols. The active
      sequence is located in the first 11 amino acids, suggesting a potential
      for oligopeptide therapy as an adjunct to revascularization.
REFERENCE COUNT:
                               28
                                      THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS
                                      RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
                         BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
      ANSWER 5 OF 11
                         2002:275090 BIOSIS
ACCESSION NUMBER:
                         PREV200200275090
DOCUMENT NUMBER:
                                                             ***PR***
                         Inhibition of apoptosis by
TITLE:
                         mediated with increased IAP2 expression.
                         Li, Jian (1); Post, Mark J. (1); (1)***
                                                                    ***Simons, Michael***
AUTHOR(S):
                         Beth Israel Deaconess Med Ctr, Harvard Med Sch, Boston,
CORPORATE SOURCE:
                         MA USA
                         Circulation, (October 23, 2001) Vol. 104, No. 17
SOURCE:
                         Supplement, pp. II.293-II.294.
                         http://circ.ahajournals.org/. print.
                         Meeting Info.: Scientific Sessions 2001 of the American
                         Heart Association Anaheim, California, USA November 11-14,
                         2001
                         ISSN: 0009-7322.
                         Conference
DOCUMENT TYPE:
LANGUAGE:
                         English
      ANSWER 6 OF 11
                         BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
                         2002:263290 BIOSIS
ACCESSION NUMBER:
DOCUMENT NUMBER:
                         PREV200200263290
                                           ***39***
TITLE:
                                                         and PR-11 peptides protect
                         against ischemia-reperfusion injury by inhibition of
                        proteasome mediated IkappaBalpha degradation.
Bao, Jialin (1); ***Gao, Youhe (1)***; Li,
Abid, Md. Ruhul (1); Aird, William (1); ***S

Michael (1)***; Post, Mark Johannes (1)
                                                                            ; Li, Min (1),
***Simons,***
AUTHOR(S):
  ***
CORPORATE SOURCE:
                         (1) Beth Israel Deaconess Med Ctr, Harvard Med Sch, Boston,
                         MA USA
                         Circulation, (October 23, 2001) Vol. 104, No. 17 Supplement, pp. II.52. http://circ.ahajournals.org/. print.
SOURCE:
                         Meeting Info.: Scientific Sessions 2001 of the American
                         Heart Association Anaheim, California, USA November 11-14,
                         2001
                         ISSN: 0009-7322.
DOCUMENT TYPE:
                         Conference
LANGUAGE:
                         English
      ANSWER 7 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER:
                               2000:706997
                                              CAPLUS
DOCUMENT NUMBER:
                               133:276343
                                               ***PR*** - ***39***
TITLE:
                               Method for
                                                                             peptide regulated
                               stimulation of angiogenesis
INVENTOR(S):
                                  ***Simons, Michael***
                                                                   ***Gao, Youhe***
PATENT ASSIGNEE(S):
                               Beth Israel Deaconess Medical Center, USA
SOURCE:
                               PCT Int. Appl., 51 pp.
                               CODEN: PIXXD2
DOCUMENT .TYPE:
                               Patent
LANGUAGE:
                               English
FAMILY ACC. NUM. COUNT:
PATENT INFORMATION:
      PATENT NO.
                           KIND
                                  DATE
                                                     APPLICATION NO.
                                                                          DATE
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WO 2000057895 A1 20001005 WO 2000-US7050 20000316
W: AU, CA, JP
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,

```
PT, SE
                                                                                       2000
       EP 1165111
                  111 A1 200 02 EP 2000-919442 2000 6
AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
                                                          us 1999-276868
PRIORITY APPLN. INFO.:
                                                                                   A 19990326
                                                                                  w 20000316
                                                          wo 2000-us7050
       The present invention provides both a method and means for regulating
       angiogenesis within living cells, tissues, and organs in-situ. The regulation is performed using native ***PR*** - ***39*** peptide or one of its shorter-length homologs, for interaction with such proteasomes as one present in the cytoplasm of viable cells. The result of ***PR*** - ***39*** peptide interaction with proteasomes in the
       intracellular degrdn. of active peptides such as HIF-1.alpha. and a
       consequential stimulation of angiogenesis in-situ.
REFERENCE COUNT:
                                             THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS
                                            RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
       ANSWER 8 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER:
                                    2000:178321 CAPLUS
                                    133:205925
DOCUMENT NUMBER:
                                    PR39, a peptide regulator of angiogenesis. [Erratum to
TITLE:
                                    document cited in CA132:149677
                                    Li, Jian; Post, Mark; Volk, Rudiger; ***Gao,***
Youhe***; Li, Min; Metals, Caroline; Sato, Kaori;
Tsai, Jo; Aird, William; Rosenberg, Robert D.;
AUTHOR(S):
                                    Hampton, Thomas G.; Li, Jianyi; Sellke, Frank; Carmeliet, Peter; ***Simons, Michael***
                                    Angiogenesis Research Center, Department of Surgery,
CORPORATE SOURCE:
                                    Beth Israel Deaconess Medical Center and Harvard
                                    Medical School, Boston, MA, 02215, USA
Nature Medicine (New York) (2000), 6(3), 356
CODEN: NAMEFI; ISSN: 1078-8956
SOURCE:
PUBLISHER:
                                    Nature America
DOCUMENT TYPE:
                                    Journal
                                    English
LANGUAGE:
       The correct versions are given for Figs. 2a, c, and d on page 51; Fig. 3c
       on page 52; and Fig. 5b on page 53.
       ANSWER 9 OF 11 CAPLUS COPYRIGHT 2003 ACS ON STN
                                    2000:46162
ACCESSION NUMBER:
                                                     CAPLUS
                                    132:149677
DOCUMENT NUMBER:
TITLE:
                                  PR39, a peptide regulator of angiogenesis
                                    Li, Jian; Post, Mark; Volk, Rudiger; ***Gao,***
Youhe***; Li, Min; Metais, Caroline; Sato, Kaori;
Tsai, Jo; Aird, William; Rosenberg, Robert D.;
Hampton, Thomas G.; Li, Jianyi; Sellke, Frank;
Carmeliet, Peter; ***Simons, Michael***
Angiogenesis Research Center, Department of Surgery
both at Beth Israel Deaconess Medical Center and
AUTHOR(S):
CORPORATE SOURCE:
                                    both at Beth Israel Deaconess Medical Center and
                                    Harvard Medical School, Boston, MA, 02215, USA
                                    Nature Medicine (New York) (2000), 6(1), 49-55
SOURCE:
                                    CODEN: NAMEFI; ISSN: 1078-8956
PUBLISHER:
                                    Nature America
DOCUMENT TYPE:
                                    Journal
LANGUAGE:
                                    English
       Although tissue injury and inflammation are considered essential for the induction of angiogenesis, the mol. controls of this cascade are mostly unknown. Here we show that a macrophage-derived peptide, PR39, inhibited the ubiquitin-proteasome-dependent degrdn. of hypoxia-inducible
       factor-1.alpha. protein, resulting in accelerated formation of vascular structures in vitro and increased myocardial vasculature in mice. For the
       latter, coronary flow studies demonstrated that PR39-induced angiogenesis resulted in the prodn. of functional blood vessels. These findings show
       that PR39 and related compds. can be used as potent inductors of
       angiogenesis, and that selective inhibition of hypoxia-inducible
       factor-1.alpha. degrdn. may underlie the mechanism of inflammation-induced
       angiogenesis.
REFERENCE COUNT:
                                    35
                                             THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS
                                             RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
       ANSWER 10 OF 11 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
                            1999:524759 BIOSIS
ACCESSION NUMBER:
DOCUMENT NUMBER:
                            PREV199900524759
TITLE:
                             Cardiac-specific overexpression of
                                                                                 ***PR***
                            induces angiogenesis, myocardial hypertrophy, and increased
                            microvascular reactivity.
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Li, Jian; Hampton, Thomas G.; Metais, Caroline; Ma, Lijie;

AΒ

L8

AUTHOR(S):

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Li, Jianyi; Amende, Ivo; Sellke, Frank W.; Douglas, Pamela S.; Morgan, Mes P.; ***Simons, Michael**
BIBMC/Harvaru Med. Sch., Boston, MA USA
Circulation, (Oct. 27, 1998) Vol. 98, No. 17 SUPPL., pp.
CORPORATE SOURCE:
SOURCE:
                           1794
                           Meeting Info.: 71st Scientific Sessions of the American
                           Heart Association Dallas, Texas, USA November 8-11, 1998
                           The American Heart Association
                             ISSN: 0009-7322.
                           Conference
DOCUMENT TYPE:
                           English
LANGUAGE:
       ANSWER 11 OF 11 CAPLUS COPYRIGHT 2003 ACS ON STNDUPLICATE 2
                                  1997:708269 CAPLUS
ACCESSION NUMBER:
                                  128:2511
DOCUMENT NUMBER:
                                  Macrophage-dependent regulation of syndecan gene
TITLE:
                                  expression
                                  Li, Jian; Brown, Lawrence F.; Laham, Roger J.; Volk,
AUTHOR(S):
                                                ***Simons, Michael***
                                  Angiogenesis Research Center, Cardiovascular Division,
CORPORATE SOURCE:
                                  Department of Medicine, Harvard Medical School,
                                  Boston, MA, USA
                                  Circulation Research (1997), 81(5), 785-796
SOURCE:
                                  CODEN: CIRUAL; ISSN: 0009-7330
                                  American Heart Association
PUBLISHER:
DOCUMENT TYPE:
                                  Journal
                                  English
LANGUAGE:
       Heparan sulfates in the extracellular matrix are required for a variety of
       biol. processes, including cellular response to heparin-binding growth factors. However, little is known regarding the regulation of their
      expression and compn. under pathophysiol. conditions. In the present study, the authors have investigated the regulation of expression of two key heparan sulfate chain-carrying core proteins, syndecan-1 and syndecan-4, in a mouse/rat infarct model of tissue injury and repair. Induction of myocardial infarction was assocd. with a prompt increase in
       expression of both syndecan genes. Although infiltrating macrophages accounted for a substantial increase in syndecan expression, increased
       expression was noted in the levels of syndecan-1 mRNA in endothelial cells
       and syndecan-4 mRNA in cardiac myocytes. This increase in expression was
       limited to the immediate peri-infarct region and was absent from remote
       areas of the left or right ventricles. The influx of blood-derived
       macrophages in the heart correlated with the appearance of
      ***39*** peptide, which has previously been shown to increase syndecan expression in vitro. Studies in the op/op mice strain (which demonstrates sharply reduced levels of circulating monocytes) showed that myocardial
       infarction was assocd. with markedly reduced levels of macrophage influx and corresponding redn. in the expression of ***PR*** - ***39*** a
       and corresponding redn. in the expression of
       both syndecan genes. Pretreatment of op/op mice with granulocyte
       macrophage colony-stimulating factor restored myocardial macrophage
                                                                  ***PR***
       content with corresponding restoration of
       /syndecan expression. In summary, myocardial infarction is assocd. with a
       distinct spatial and temporal pattern of syndecan-1 and -4 gene
       expression, which is induced by an influx of blood-derived macrophages.

ENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS
REFERENCE COUNT:
                                          RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
=> d his
       (FILE 'HOME' ENTERED AT 16:01:50 ON 20 JUL 2003)
      FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT 16:02:13 ON 20 JUL 2003
L1
                425 S PR-39
               1372 S PROTEOSOME
L3
                462 S L2 (P) INHIBIT?
                   0 S L1 (P) L3
L4
                303 S SIMONS MICHAEL/AU
L5
                 25 S GAO YOUHE/AU
                 13 S (L5 OR L6) AND L1
                 11 DUPLICATE REMOVE L7 (2 DUPLICATES REMOVED)
=> log y
COST IN U.S. DOLLARS
                                                                  SINCE FILE
                                                                                       TOTAL
                                                                         ENTRY
                                                                                     SESSION
FULL ESTIMATED COST
                                                                         38.57
                                                                                        38.78
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10TA 10 4.5

STN INTERNATIONAL LOGOFF AT 16:04:32 ON 20 JUL 2003